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09/516,082	03/01/2000	Satoshi Murakami	SEL163	3545

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EXAMINER

LEE, EUGENE

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 04/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/516,082

Applicant(s)

MURAKAMI ET AL.

Examiner

Eugene Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23,25-35 and 42-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23,25-35 and 42-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first color filter, second color filter and third color filter must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The figures only show one color filter 2301.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The amendment filed 1/29/02 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: a first color filter, a second color filter and third color filter. The specification only discloses one color filter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 42 thru 45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose a first color filter, a second color filter and third color filter. The specification only discloses one color filter.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 4, 6, 8, 10, 12, 14, 18, 22, 25, 29, 31 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamazaki et al. '226. Yamazaki discloses (see, for example, Figure 4B)

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a semiconductor device comprising a black matrix (first electrode) 316, second interlayer insulating dielectric film (organic resin film) 315, third interlayer dielectric film (oxide film) 317, and pixel electrode (second electrode) 318. In column 6, lines 49-55, Yamazaki states the third interlayer dielectric film may be silicon oxide-based dielectric film. The pixel electrode extends across the top of the semiconductor device, providing shielding for the thin film transistor underneath.

8. Claims 1 thru 10, 12, 14, 18, 20, 22, 23, 25, 27 thru 29, and 31 thru 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. '485. Sato discloses (see, for example, FIG. 1) a semiconductor device comprising a metal film (first electrode) 16M, insulating film (organic resin film) 17, insulating film (oxide film) 18, and pixel electrode (second electrode) 6. In column 7, lines 50-60, Sato discloses the insulating films being SiO₂, and/or organic substances.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 11, 13, 15, 19, 21, 26, 30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al. '290 in view of Sato et al. '485 in view of Kunii et al. '493. Miyazaki discloses (see, for example, FIG. 6) a semiconductor device comprising a driver TFTs 1, 2 and pixel TFT 3 over a substrate. TFT 1 is a n-channel transistor comprising a first lightly doped region and a first gate electrode wherein the first lightly doped region is overlapped with

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the first gate electrode. TFT 3 also has a second lightly doped region and a second gate electrode; however, the second lightly doped region does not overlap the second gate electrode. Miyazaki does not disclose a storage capacitor in the pixel matrix circuit, a shielding film over an organic resin film, an oxide film, and pixel electrode. However, it was well known in the art at the time of invention to have these structures adjoined with thin film transistors so that an operable LCD device can be formed. See, for example, FIG. 1 of Sato. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include these structures of Sato in Miyazaki in order to implement the thin film transistors into an operable LCD device.

Miyazaki in view of Sato does not disclose the first lightly doped region comprising an n-type impurity at a higher concentration than the second lightly doped region. However, Kunii teaches (see, for example, column 15, lines 49-*) that the lightly doped region near the picture element has a lower density than the other lightly doped regions, therefore, suppressing the leakage current. It would have been obvious to one of ordinary skill in the art at the time of invention to have a lower concentration in the pixel TFT so that one could suppress the leakage current.

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. '485 as applied to claims 1 thru 10, 12, 14, 18, 20, 22, 23, 25, 27 thru 29, and 31 thru 33 above, and further in view of Zhong et al. '721. Zhang does not disclose color filters. However, it was well known in the art at the time of invention to place color filters in pixel circuits in order to filter out colors and show an image. See, for example, FIG. 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have color filter in order to display the proper colors of a pixel.

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12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al. '290 in view of Sato et al. '485 in view of Kunii et al. '493 as applied to claims 11, 13, 15, 19, 21, 26, 30 and 34 and further in view of Zhong et al. '721. Zhang does not disclose color filters. However, it was well known in the art at the time of invention to place color filters in pixel circuits in order to filter out colors and show an image. See, for example, FIG. 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have a color filter in order to display the proper colors of a pixel.

13. Claims 42 thru 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. '485 as applied to claims 1 thru 10, 12, 14, 18, 20, 22, 23, 25, 27 thru 29, and 31 thru 33 in further view of Zhong '721. Sato does not disclose color filters. However, Zhong shows (see, for example, FIG. 1 and 6(c)) a pixel matrix circuit comprising color filters of red, green and blue colors. It was well known in the art at the time of invention to place color filters in pixel circuits in order to filter out colors and show an image. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have the color filters of Zhong in Sato's invention in order to display the proper colors of a pixel.

Response to Arguments

14. Applicant's arguments with respect to claims 1-23, 25-35, and 42-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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Eugene Lee
April 19, 2002

A handwritten signature in black ink, appearing to read 'Eddie Lee', with a large, sweeping initial 'E'.

EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800